ENVIRONMENTAL SCIENCE - BACHELOR OF SCIENCE IN ENVIRONMENTAL SCIENCE

The environmental science major is a multidisciplinary program based on a strong general science curriculum and an environmental curriculum that focuses on environmental problems and solutions. Although administered by the Department of Plant and Environmental Sciences, a multidisciplinary advisory committee recommends curriculum and other changes to the program. Graduates are very competitive for careers in industry and government and have excellent preparation for graduate programs in a variety of fields. A grade of C- or better must be earned in the Basic Background and Core Requirements.

Students must complete all University degree requirements, which include: General Education requirements, Viewing a Wider World requirements, and elective credits to total at least 120 credits with 48 credits in courses numbered 300 or above. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Area I: Communications		*10*
English Composition - Level 1 [1]		
English Composition - Level 2 [1]		
Oral Communication [1]		
Area II: Mathematics		
MATH 1511G	Calculus and Analytic Geometry I [2]	4
Area III/IV: Laboratory Sciences and Social/Behavioral Sciences		*11*
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	
Area IV: Social & Behavioral Sciences Course (3 credits) [1]		
Area V: Humanities [1]		*3*
Area VI: Creative and Fine Arts [1]		*3*
General Education Elective [3]		
GEOL 1110G	Physical Geology	4
Viewing A Wider World [4]		**6**
Departmental/College Requirements		
Basic Science and Math Requirements (42-43 credits including Area III and General Education Elective above)		
BIOL 2110G	Principles of Biology: Cellular and Molecular Biology	3
BIOL 2610G	Principles of Biology: Biodiversity, Ecology, and Evolution (note: BIOL 2610L is NOT required for ES major)	3
BIOL 311	General Microbiology	3
A ST 311	Statistical Applications	3
MATH 1521G	Calculus and Analytic Geometry II	4
or MATH 1430G	Applications of Calculus I	
PHYS 1310G	Calculus -Based Physics I (note: the lab is NOT required for ES major)	3
SOIL 2110 & 2110L	Introduction to Soil Science and Introduction to Soil Science Laboratory	4
Select one of the following:		3-4
ANSC 1170	Introduction to Animal Metabolism	
CHEM 2120	Integrated Organic Chemistry and Biochemistry (CHEM 2120 must be taken with associated 1-cr CHEM lab)	
CHEM 313	Organic Chemistry I	
Environmental Science Core Requirements		
ENVS 1110G	Environmental Science I	4
ENVS 2111 & 2111L	Environmental Engineering and Science and Environmental Science Laboratory	4
ENVS 301	Principles of Ecology	3
ENVS 312	Emergency Response to Hazardous Material Incidents	2
ENVS 361	Basic Toxicology	3
ENVS 370	Environmental Soil Science	3
ENVS 391	Internship	3
ENVS 447	Seminar	1
ENVS 452	Geohydrology	4
ENVS 460	Introduction to Air Pollution	3
ENVS 462	Sampling and Analysis of Environmental Contaminants	3
ENVS 470	Environmental Impacts of Land Use and Contaminant Remediation	3
Select from one of the following:		3-4
ENVS 457	Water Measurement	
FWCE 434	Aquatic Contaminants and Toxicology	
FWCE 459	Aquatic Ecology	
Select one of the following:		3
ENVS 422	Environmental Chemistry	
GEOL 360	General Geochemistry	
SOIL 424	Soil Chemistry	
Select one of the following:		3-4
GEOG 381	Cartography and GIS	
GEOG 481	Fundamentals of GIS (any GIS course)	
GEOG 488	GIS and Water Resources	
GEOL 444	GIS for Geology	
Second Language: (not required)		
Electives, to bring the total credits to 120 [5]		**8**
Total Credits		**120-123**

1 See the General Education (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/) Section of the catalog for a full list of courses

2 MATH 1511G Calculus and Analytic Geometry I is required for the degree but students may need to take prerequisites first.

3 MATH 1511G, ENVS 1110G, and GEOL 1110G are all required for this major and will satisfy this category depending on which course is completed first.

4 See the Viewing a Wider World (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext) Section of the catalog for a full list of courses; one course may be in the College of ACES but cannot be taught or cross-listed with AGRO, HORT, ENVS, SOIL, or GENE.

5 Elective credit may vary based on prerequisites, dual credit, AP credit, double majors, and/or minor coursework. The amount indicated in the requirements list is the amount needed to bring the total to 120 credits and may appear in variable form based on the degree. However students may end up needing to complete more or less on a case-by-

case basis and students should discuss elective requirements with their advisor.

A Suggested Plan of Study for Students

This roadmap assumes student placement in MATH 1220G College Algebra and ENGL 1110G Composition I . The contents and order of this roadmap may vary depending on initial student placement in mathematics and English. It is only a suggested plan of study for students and is not intended as a contract. Course availability may vary from fall to spring semester and may be subject to modification or change. Students should meet with their advisor every semester.

First Year		
Semester 1		**Credits**
ENVS 1110G	Environmental Science I	4
ENGL 1110G	Composition I [1]	4
Choose from one of the following: [2]		3
Area IV: Social and Behavioral Science Course [2]		
Area V: Humanities Course [2]		
Area VI: Creative and Fine Arts Course [2]		
Elective Course [3]		3
Students who must be enrolled in 15 credits a semester for Financial Aid purposes will need to enroll in additional elective credits [3]		
	Credits	**14**
Semester 2		
Elective Course [3]		3
BIOL 2610G	Principles of Biology: Biodiversity, Ecology, and Evolution (Lab not required)	3
Choose from one of the following:		3
COMM 1115G	Introduction to Communication	
ACOM 1130G	Effective Leadership and Communication in Agriculture	
GEOL 1110G	Physical Geology	4
Choose from one of the following:		3
Area IV: Social Behavioral Course [2]		
Area V: Humanities Course [2]		
Area V: Creative and Fine Arts Course [2]		
	Credits	**16**
Second Year		
Semester 1		
MATH 1511G	Calculus and Analytic Geometry I [1]	4
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	4
BIOL 2110G	Principles of Biology: Cellular and Molecular Biology (Lab not required)	3
Choose from one of the following:		3
ENGL 2210G	Professional and Technical Communication Honors	
ENGL 2215G	Advanced Technical and Professional Communication	
Choose one from the following:		4
ENVS 457	Water Measurement	
FWCE 434	Aquatic Contaminants and Toxicology	
FWCE 459	Aquatic Ecology	
Students who must be enrolled in 15 credits a semester for Financial Aid purposes will need to enroll in additional elective credits [3]		
	Credits	**18**
Semester 2		
MATH 1521G or MATH 1430G	Calculus and Analytic Geometry II [1] or Applications of Calculus I	4
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors [1]	4
Choose from one of the following:		3
Area IV: Social and Behavioral Science Course [2]		
Area V: Humanities Course [2]		
Area VI: Creative and Fine Arts [2]		
Students who must be enrolled in 15 credits a semester for Financial Aid purposes will need to enroll in additional elective credits [3]		
	Credits	**11**
Third Year		
Semester 1		
A ST 311	Statistical Applications [1]	3
SOIL 2110 & 2110L	Introduction to Soil Science and Introduction to Soil Science Laboratory	4
CHEM 2120 or CHEM 313	Integrated Organic Chemistry and Biochemistry (CHEM 2120 must be taken with associated 1-cr CHEM lab) or Organic Chemistry I	3-4
GEOG 481	Fundamentals of GIS	4
VWW: Viewing a Wider World Course [4]		3
	Credits	**17-18**
Semester 2		
ENVS 312	Emergency Response to Hazardous Material Incidents (Spring Only)	2
ENVS 2111 & 2111L	Environmental Engineering and Science and Environmental Science Laboratory	4
ENVS 370	Environmental Soil Science (Spring Only)	3
PHYS 1310G	Calculus -Based Physics I (lab not required)	3
	Credits	**12**
Fourth Year		
Semester 1		
ENVS 462	Sampling and Analysis of Environmental Contaminants (Fall Only)	3
ENVS 452	Geohydrology (Fall Only)	4
ENVS 460	Introduction to Air Pollution (Fall Only)	3
ENVS 361	Basic Toxicology (Fall Only)	3
ENVS 422	Environmental Chemistry	3
	Credits	**16**
Semester 2		
ENVS 470	Environmental Impacts of Land Use and Contaminant Remediation (Spring Only)	3
ENVS 301	Principles of Ecology	3
ENVS 391	Internship	3
VWW: Viewing a Wider World Course [4]		3
BIOL 311	General Microbiology	3
ENVS 447	Seminar	1
	Credits	**16**
	Total Credits	**120-121**

1. These courses have prerequisites and it is the students responsibility to check and fulfill all course prerequisites listed for these courses.
2. See the General Education (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/) section of the catalog for a full list of courses.
3. The department recommends utilizing the following courses to fulfill the additional elective credits needed for Financial Aid requirements.

First Year - Semester 1:

- MATH 1220G College Algebra
- ACES 1120 Freshman Orientation

First Year - Semester 2:

- MATH 1250G Trigonometry & Pre-Calculus

Second Year - Semester 1:

- CHEM 1121 General Supplemental Instruction I

Second Year - Semester 2:

- CHEM 1122 General Supplemental Instruction II

[4] See the Viewing a Wider World (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext) section of the catalog for a full list of courses.